

# **DRAFT Bohigian Conservation Area**

## **Ten-Year Area Management Plan FY 2016-2025**



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## OVERVIEW

- **Official Area Name:** Bohigian Conservation Area, # 200706
- **Year of Initial Acquisition:** 2006
- **Acreage:** 437 acres
- **County:** Phelps
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Responsibility:** Wildlife
- **Statements of Purpose:**

### A. Strategic Direction

The Bohigian Conservation Area (CA) was purchased in 2006 with funds from the Stream Stewardship Trust Fund, the Missouri Department of Conservation (the Department) and private donors. The area provides fishing access to Mill Creek, a Blue Ribbon Trout Area. The area will continue to be developed and managed for the protection and enhancement of the area's natural and cultural resources; grassland, glade, woodland and forest wildlife species; and public recreational uses that are compatible with natural resource protection.

### B. Desired Future Condition

The desired future condition for Bohigian CA is an area that provides fishing access to Mill Creek; provides early successional grassland, wetland, forest, woodland and glade habitat for associated species; and provides quality spawning habitat with minimal transport of sediments and pollutants.

### C. Federal Aid Statement

N/A

## GENERAL INFORMATION AND CONDITIONS

### I. Special Considerations

- A. **Priority Areas:** Kaintuk Hills Conservation Opportunity Area, Mill Creek Priority Watershed
- B. **Natural Areas:** None

### II. Important Natural Features and Resources

- A. **Species of Conservation Concern:** Species of conservation concern are known from this area. Area Managers should consult the Natural Heritage Database annually and review all management activities with the Natural History Biologist.
- B. **Caves:** None
- C. **Springs:** Hudgens Spring (0.64–6.46 million gallons per day)

### III. Existing Infrastructure

- 2 parking lots

### IV. Area Restrictions or Limitations

- A. **Deed Restrictions or Ownership Considerations:** None
- B. **Federal Interest:** Federal funds may be used in the management of this land. Fish and wildlife agencies may not allow recreational activities and related facilities that would interfere with the purpose for which the State is managing the land. Other uses may be acceptable and must be assessed in each specific situation.
- C. **Easements:** Electric Cooperative
- D. **Cultural Resources Findings:** Yes, records kept with the Department's Environmental Compliance Specialist. Managers should follow Best Management Practices for Cultural Resources found in the Department Resource Policy Manual.
- E. **Hazards and Hazardous Materials:** None observed.
- F. **Endangered Species:** None observed.
- G. **Boundary Issues:** None

## MANAGEMENT CONSIDERATIONS

### V. Terrestrial Resource Management Considerations

Bohigian CA is comprised of grassland, wetland, forest, woodland and glade landscapes. These landscapes are managed to provide early successional habitat for all species.

#### **Challenges and Opportunities:**

- 1) Manage grasslands, the overstory woodland (including older growth trees) and the understory for grasses and forbs, while providing bare ground for grassland species, and controlling exotic/invasive species in open areas.
- 2) Keep warm-season grass density at a level that is useable and beneficial for multiple glade, grassland and forest community species.

**Management Objective 1:** Manage grassland landscape in multiple successional stages to provide food and cover for multiple species.

**Strategy 1:** Provide early successional habitat (needed for bare ground) and thicker nesting cover, in close proximity. Break the area into multiple burn units and burn on a minimum three-year rotation at any given time. (Wildlife)

**Strategy 2:** Rotate burn seasons to favor either grasses or forbs, depending on limiting factors. (Wildlife)

**Management Objective 2:** Manage the woodlands to provide appropriate structure and herbaceous diversity. Reduce the basal area in units that have a more closed canopy to enhance the native forb and warm-season grass understory. Allow timber to grow to larger size classes of uneven ages.

**Strategy 1:** Areas that have already had a basal area reduction from the use of fire or mechanical techniques will be burned with a minimum three-year rotation and frequency, in order to control leaf litter buildup and undesirable re-sprouting. (Wildlife)

**Strategy 2:** Mechanically thin historically open woodland areas with currently closing canopies. Manage the same as existing open woodlands, conducting prescribed burns on a minimum three-year rotation. (Wildlife)

**Strategy 3:** Conduct a forest inventory in 2017 and establish permanent vegetative plots in all forest and woodland landscapes to assist managers in future regeneration techniques. (Forestry, Wildlife)

**Management Objective 3:** Control or eliminate exotic or invasive species in grasslands and woodlands.

**Strategy 1:** Reduce the growth potential of tall fescue and promote warm-season grasses by rotating prescribed burns later in spring and conducting them in areas where tall fescue has been most detrimental. Burn early in the fall to provide a higher growth potential for tall fescue and spray with a cool-season grass herbicide when tall fescue is more susceptible. (Wildlife)

**Strategy 2:** Use of a broadleaf herbicide on sericea lespedeza and spotted knapweed (the primary exotic or invasive species in the area). These herbicides will continue to be spot-sprayed seasonally when it is most detrimental to these exotic species. (Wildlife)

## **VI. Aquatic Resource Management Considerations**

### **Challenges and Opportunities:**

- 1) Maintain quality spawning habitat. Hudgens Spring flows through the area and provides quality spawning habitat for rainbow trout. Wetland habitats in the conservation area may contain species of conservation concern.
- 2) Minimize the supply and transport of sediments and pollutants to downstream areas. Bohigian CA lies in the center of the Mill Creek Watershed (a designated priority watershed) and the Mark Twain National Forest (owned by the U. S. Forest Service). The watershed has 62 percent public ownership between the Department and the U.S. Forest Service. Mill Creek flows through the conservation area for approximately 1.25 miles.

**Management Objective 1:** Maintain quality Blue Ribbon Trout Area.

**Strategy 1:** Sample rainbow trout populations every other year. (Fisheries)

**Strategy 2:** Maintain and enhance current habitat structures for adult rainbow trout. (Fisheries)

**Strategy 3:** Work with the U.S. Forest Service to maintain and enhance trout habitat on adjoining stream segments in the Mark Twain National Forest. (Fisheries)

**Management Objective 2:** Minimize the supply and transport of sediments and pollutants into downstream areas. Follow *Watershed and Stream Management Guidelines for Land and Waters Managed by Missouri Department of Conservation* (Missouri Department of Conservation, 2009).

**Strategy 1:** Minimize any adverse impacts to the watershed by observing protection measures during any disturbance in the riparian zones and around the pond. (Wildlife)

**Strategy 2:** Use appropriate herbicides when controlling invasive species in the riparian zones and around the ponds. Maintain all existing riparian corridors. (Wildlife)

**Strategy 3:** Consult Fisheries on all work inside the riparian corridors. (Wildlife)

**Strategy 4:** Control erosion along the road and trail system. (Wildlife)

**Management Objective 3:** Manage the wetland/fen to enhance the natural community.

**Strategy 1:** Use appropriate herbicides when spraying/controlling invasive/exotic species in the wetland areas to enhance natural community structure. (Wildlife)

**Strategy 2:** Work with appropriate Department staff to minimize effects from development on the fen and wetlands and to encourage their expansion on the landscape. (Wildlife)

## **VII. Public Use Management Considerations**

**Challenges and Opportunities:**

Increase public educational opportunities at the area.

**Management Objective 1:** Increase the awareness and success of habitat management on public lands and promote outdoor education.

**Strategy 1:** Work with the Outreach and Education Division to promote outdoor skills activities. Work with the Discover Nature in Schools Program when appropriate. (Wildlife)

## VIII. Administrative Considerations

### Challenges and Opportunities:

Ensure Department boundaries are marked and visible to public users.

**Management Objective 1:** Keep current area boundary signs visible and presentable to the public.

**Strategy 1:** Complete an annual visual survey of all boundary signs. Replace damaged or missing signs. (Wildlife)

## MANAGEMENT TIMETABLE

All strategies are considered ongoing unless listed below.

	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
<b>Terrestrial Resource Management</b>										
<i>Objective 2</i>										
Strategy 3		X								

## APPENDICES

### Area Background:

The Bohigian CA was purchased in 2006 with funds from the Stream Stewardship Fund, the Department and private donors. The purpose of the purchase was to improve fishing access to Mill Creek, a Blue Ribbon Trout Area.

### Current Land and Water Types:

Land/Water Type	Acres	% of Area
Forest/Woodland	327	75
Grassland	100	23
Wetland/Fen	10	2
<b>Total</b>	<b>437</b>	<b>100</b>

### References:

Missouri Department of Conservation. (2009). *Watershed and stream management guidelines for land and waters managed by Missouri Department of Conservation*. Jefferson City, Missouri: Missouri Department of Conservation.

<http://forestkeepers.org/wp-content/uploads/2013/05/Watershed-and-Stream-Management-Guidelines-for-MDC-Land1.pdf>

Nigh, T. A., & Schroeder, W. A. (2002). *Atlas of Missouri ecoregions*. Jefferson City, Missouri: Missouri Department of Conservation.

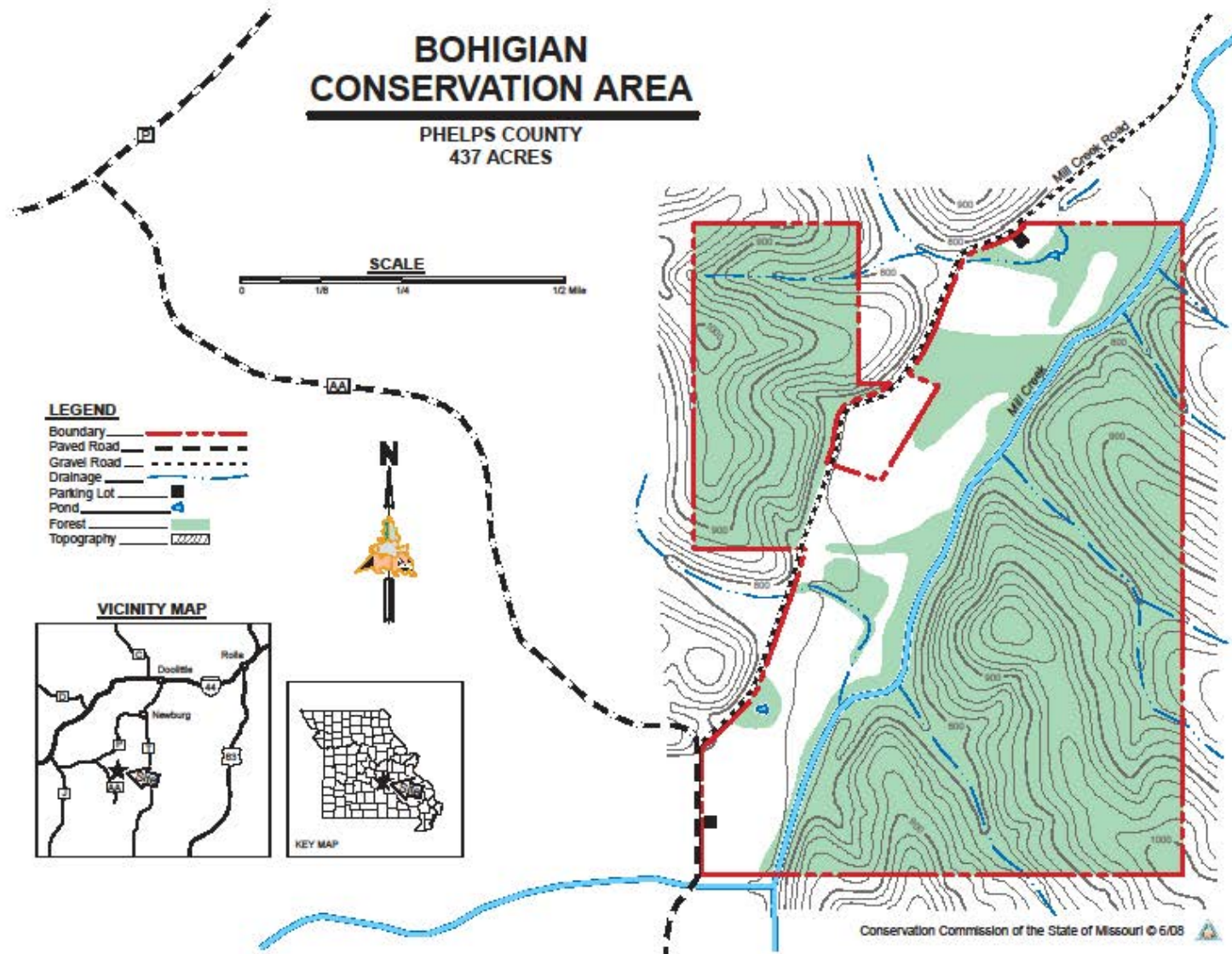
### Maps:

Figure 1: Area Map

Figure 2: Aerial Map

Figure 3: Topographic Map

Figure 1: Area Map

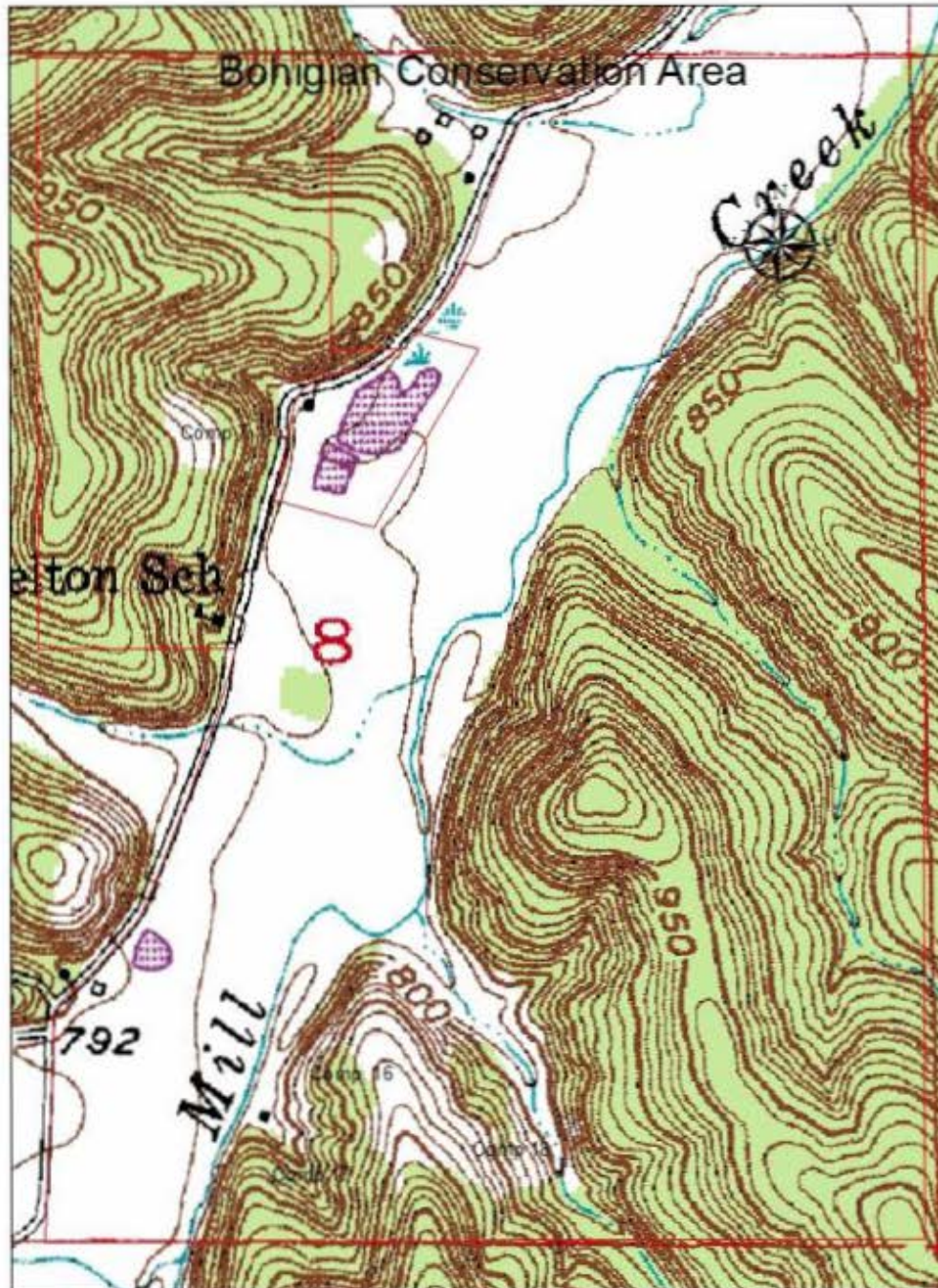




**Figure 2: Aerial Map**



**Figure 3: Topographic Map**



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